STATE OF NEW YORK
COUNTY OF BROOME

In the Matter of the
Public Informational Meeting
Concerning the
ENDICOTT VILLEFIELD
presented by the
New York State Department of Environmental Conservation

A Public Hearing held at the Municipal Building, Endicott, New York, on the 11th day of August, 1987, commencing at 7:00 P.M.

HEARING BOARD: Sue Miller, DEC
Ray Kimpff, CEA
Michael O'Hara, TAMS
Robert J. Cozzy, DEC
Frank Ricotta, DEC
Dr. Kathleen Gaffney, Health Department

HEARING REPORTER: BRENDA S. FRIEDEL DOTY, RPR
Notary Public

MS. MILLER: Hello, and welcome to tonight's meeting. My name is Sue Miller and I'm in charge of citizen participation and public affairs for the State Department of Environmental Conservation in this region of the state.

Tonight, we are here to discuss and hear about the draft remedial investigation and feasibility study for the Ranney well in Endicott wellfield in the Town of Union. Now, the remedial investigation feasibility study is a set of four long words that basically mean that the remedial investigation looks at the site, determines what type of contamination exists and, where it exists, to what extent.

The feasibility study goes into detail with regard to various alternatives for remedial action at the site and recommends one particular alternative that is chosen as the best or most feasible for this site. That's what you'll be hearing about tonight, the remedial investigation feasibility study.

The purpose of tonight's meeting is really twofold. First of all, for those of you that may not have weeded through yet or had the opportunity to go through the four volumes of the report, it's to describe the report to you; and then secondly, to take the comments and questions from the public on this report.

The public comment period on this report ends August 21st. After closure of the public comment period, DEC will finalize the report and forward it to the Environmental Protection Agency. Once the Environmental Protection Agency receives it, that's the federal agency, they review the report and they issue what's called a record of decision which makes a final decision on this recommended alternative. That record of decision is expected in September and will be put on file the same place that this report was put on file and that will be made available at the Johnson Library. In addition, the report was also made available in this building, the municipal building. Notices have appeared in the Press/Sun Bulletin and it has aired on WENE.

We hope that everyone here this evening has had a opportunity to sign in so that we know who is able to attend tonight's meeting. If you know of others who weren't able to attend but were interested in this report or if you have further comments to make after hearing tonight's presentation, we invite you to get written comments to Bob Cozzy at the New York State Department of Environmental Conservation, 50 Wolf Road, Albany, and you have up until the close of the public comment period, August 21st, to get any written comments in.

Tonight's agenda is basically going to consist of presentations by two consultants involved in putting the report together, followed by some comments on the health assessment which is part of the report that one of the consultants will address. And then we will take questions and comments from the audience.

Let me introduce who we have here at the table tonight. We have Dr. Gaffney from Broome County Health Department. We thank you for coming tonight, Dr. Gaffney; Frank Ricotta, who is with our department in the Albany office; Bob Cozzy, who is with DEC Albany who is the project engineer in this particular site; we have Mike O'Hara with TAMS, a consulting firm, the lead consulting firm involved in putting this study together; and we have Ray Kampff with GZA consultants, who will be the first person to speak this evening and he'll address the remedial investigation which his firm put together.

MR. KAMPFF: Thank you. Before we get started. The remedial investigation that we did, I thought I'd give you a little bit of background on the Endicott wellfield site and exactly why remedial investigation study was necessary for this site.

The Endicott wellfield project area is shown by this sheeted area right here. Down in the corner is the

Ranney Well. The study area includes the Ranney Well and a portion of its catchment included underneath the En-Joie Golf Course and a portion of the Endicott sewage treatment plant. To the south of the site you have the Susquehanna River and bisecting the site is Nanticoke Creek.

Ranney well is a major component of the Village of Endicott municipal water system. It pumps an average of 3,700 gallons a minute and that comprises approximately 47 percent of the total water supply for the Village of Endicott. In May of 1981, the USEPA, during routine testing of the water, detected various volatile organic chemicals in the water. Primary concern was vinyl chloride that was found at 0.4 parts per billion. Since that time, the results in '81 were confirmed by additional testing and remedial activity was undertaken on several fronts.

The New York State DEC Division of Water completed some hydrogeologic investigations at the site. The village of Endicott expanded the analytical testing program in hopes to pin down the source of the contamination. As a result of those earlier studies, various remedial activity has been completed to date. Some of the activity included closing down some of the most contaminated laterals in the well, installing a purge well

in an upgrading position of the Ranney Well to intercept the contaminated ground water before it got into the Ranney well.

In large parts, the remedial activities have been successful in reducing the level of contamination in the Ranney well such that vinyl chloride, in most occasions, is not detected. However, on occasions, some vinyl chloride does get to the Ranney well and some other volatile organics are found in the Ranney well. Therefore, the DEC in March of 1986 retained TAMS Consultants and Goldberg-Zoino Associates acted as a sub-consultant to TAMS to complete our remedial investigations at this site. And the purpose of this remedial investigation study was; one, to assess the extent of the contamination found in the Ranney well; and two, to try to determine the location of the contaminant source.

Our work included field activities that extended from May 1986 to January '87. And some of the work just briefly included review of the existing data, including the monitoring wells that were installed by the DEC, analytical test results, reports on nearby contaminant sources.

We also prepared a work quality assurance plan and a health and safety plan that we followed during the field investigation phase of the work.

We did topographic maps of the Endicott wellfield site; survey at the locations of the test bore sampling points that we put in.

We completed surface geophysical studies with seismograph type studies to better determine the nature of the soils and contamination at the site before we got into a drilling program to assist us in positioning our monitoring wells and sampling locations.

We activated three test pits around an abandoned tannery sewer which earlier was suspected as a potential contaminant source.

Additional work included the drilling and sampling of 18 test borings with an average depth of approximately 100 feet deep and the subsequent installation of 18 monitoring wells constructed of stainless steel screens and risers to monitor the ground water elevations and the quality of the ground water.

During this work, we collected samples and screened them in the field with a portable gas chromatograph to aid us in positioning the wells and also to use as a health and safety measure.

Additional work included ground water level monitoring, testing of the soil types to determine the permeability and the ground water characteristics.

We completed five sampling rounds from the various media, including ground water, surface water, sediments, waste samples, outbreak samples throughout the site.

We collected that data and analyzed the data. Part of that analysis included the development of a mathematic computer ground water to simulate and predict ground water flows at the site.

And finally, we prepared and submitted a remedial investigations report which is on file. I guess everyone has an opportunity to look at.

This site investigation map is kind of crowded by the topouls (sic). You do have a handout that shows it a little bit better. The Ranney well is located down in the corner. The purge well that was put in by the DEC is this location. The wells shown in red are the wells that we installed during this study. The remaining wells were installed by the DEC and as you can see, wells were installed both on the En-Joie Golf and over around the Endicott sewage treatment plant.

The geology based on the borings that were completed, you can see this in general terms. The geology of the site includes glacially deposited soils that were deposited glacially. The geophysical testing indicated

that bedrock occurs between 140 and 200 feet at the site. One test boring, EW-2, that was taken to bedrock encountered bedrock at 170 feet.

In general, the geology of the Kanney well, the Kanney well aquifer includes sands and gravels that were deposited as outwash or ice contact materials as the glaciers receded from the area. However, in one area that extends from about where the purge well is on the golf course underneath Nanticoke Creek and over to some point underneath the sewage treatment plant, a large chunk of ice broke off from the glaciers as it receded from the area. And as that material melted, it created a pond approximately 50 feet deep. With time, that pond sediment accumulated at the bottom of the pond through natural processes and flooding of the Susquehanna and the nearby creeks and that kettle deposits filled with a fine grain silt and sand material.

Now, this becomes important when we get into the distribution of contaminants at the site because the sands and gravels are very permeable and naturally flow back to your ground water. However, the kettle deposit is a barrier to ground water flow. It restricts ground water flow and in many cases traps contaminants underneath the kettle or forces them to go around the margin of the

kettle.

The surface deposits at the site are primarily recent deposits associated with the flooding of the creeks, fine sands, silts and clays. In the area of the sewage treatment plant, there is approximately 20 feet, plus or minus, of embankment fill materials that were used when they constructed the plant to get it up out of the flood plain.

Monitoring wells that we installed we measured the ground water elevations on a regular basis to give us an indication of the ground water flow, directions and other conditions occurring in the ground water.

Now, regionally the ground water pattern is typically from the north to south from the high-up lands towards the Susquehanna River. But due to the pumping of the Ranney well and the purge well to a lesser extent, this regional north/south pattern is modified such that ground waters flow generally from west to east at the site. You can see as you approach the wells, there's a cone of influence drawing water in towards the pumping well. In fact, the computer modeling indicated that the Ranney well has a very large zone of influence and it draws water in a western direction as far as areas west of the Endicott sewage treatment plant and the areas of the Tri-Cities

Airport, which is approximately a mile away from the Ranney well.

The sampling at the site determined that there were approximately 20 volatile organic chemicals found either in the monitoring wells, sediment samples, leech-aid outbreak samples, various sources that we tested. The majority of these contaminants were found at levels greater than ten parts per billion. Several of them were found at one part per billion and they may have been found in an isolated location. Of these contaminants, these were due primarily to their most wide-spread occurrence at the site and the most elevated concentrations and those include vinyl chloride, chlorethane and trans-1,2-dichlorethene.

The distribution of contaminants is depicted on this drawing. This generally shows the distribution of vinyl chloride that we found in the ground water. For reference, the Ranney well is down in this area.

Now, this shows that the most contaminated material, contaminated ground water was found in our well EW-3 deep where we found vinyl chloride in excess of 100 parts per billion and that was sampled, I believe, on three or four occasions and it continued to be in excess of 100 parts per billion.

Beyond that, you have the green is less than 100

and greater than 50 parts per billion. The orange is 25 to 50 parts per billion and the yellow between 10 and 25 parts per billion. This distribution of contaminants in the ground water is indicative of what's called a slug flow contaminant problem where a slug of contamination enters the ground water, flows in the same direction as the ground water and ultimately discharges at a discharge location. In this case, it would either be Ranney or purge well.

Now, this is different from a continuous source of contamination. If there was an ongoing source of contamination, you'd find the highest source of contamination at the contaminant source and then would spread and decrease as it flowed with the ground water.

Our theory that we developed at this site is that these contaminant slugs were introduced into the Ranney well aquifer as a function of the flooding of the Susquehanna River. We believe that the Susquehanna flood inundated the landfill, in this case the Endicott landfill, forced the ground water back into the catchment of the Ranney well and with time, the contaminant was sucked down by the Ranney well underneath the kettle deposits that I showed you before and ultimately got its way into the Ranney well.

Potential sources of contaminants that we have

identified in this study are shown on this map. The ones in green were judged, for various reasons, to be less likely sources of contamination for various reasons which may include the distribution of contaminants that were found via the down-grading of the wells were not contaminated, the distance was too far or the ground water flow directions were not suitable to the purposes we had.

But in any event, the Endicott landfill which is immediately west of the sewage treatment plant and the Town of Union landfill which is west of the Nanticoke Creek at this point appear to be the most likely sources of the contamination that was encountered in the Ranney well and it's our theory that the flooding is the mechanism that drives the contamination out of these landfills and into the catchment of the Ranney well.

Just briefly in summary, the results of this study indicate, obviously, that the Ranney well is a major source of ground water to the municipal system of Endicott, that contamination was found in 1981 and it's been confirmed by subsequent testing. Low level of volatiles continue to reach the Ranney well and the source of the contamination has not been found.

The site conditions that we determined include a thick sand and gravel deposits that comprise the Ranney

well aquifer. The ground water flows from west to east across the site in response to the pumping of the Ranney and purge wells. The primary contaminants found in the Ranney well continued to be volatile organics, particularly vinyl chloride, trans-1,2-dichloroethylene and chloroethane, and the distribution of these contaminants is indicative of a slug flow rather than a continuous source of contamination.

We believe the most likely source of these contaminants include the Endicott landfill and/or the Town of Union landfill.

Therefore, we are recommending that additional studies be done to further evaluate these potential sources of contamination. But in the interim, we believe that some sort of symptomatic remediation must be done such that the water is continuously below the current standards.

Ultimately, the goal should be to clean up the source of the contamination. Now, to discuss this system remediation, Mike O'Hara from TAMS is going to speak on the feasibility study done.

MR. O'HARA: The purpose of the feasibility study of this project is to determine what, if anything, needs to be done based on the remedial investigation description of the site and the problems. As the remedial

investigation was -- the conclusions were coming in from that on-site conditions, we started thinking about what would have to be done to start formulating alternatives and approach to the feasibility study.

Based upon what Ray described on the remedial investigation, we decided that the objectives for remedial action, there should be an immediate objective and that is to provide drinking water acceptable for long-term use in the sense that occasionally low levels of volatile organic contaminants were showing up in the area and so we want to remediate at the Ranney well and that's our objective in this study. And as Ray also mentioned, ultimately, when the source of contamination is found we want to remove or contain the source of contamination and also remediate ground water that is contaminated that is between the source and the Ranney well so that we provide the ultimate protection for the drinking water.

In this feasibility study, just to give you a brief rundown on what we do here, we start looking at all the different technologies that are available to provide this treatment at the well. We find the ones that appear to be operable here and we provide different alternatives for.

For our study, we developed seven alternatives;

six, but another one being a no-action alternative which must be included in the analysis just as a business case. Then we analyzed the alternatives for several different factors; reliability, cost effectiveness, timeliness, how quickly can it be implemented, does it take years or is it something we can do right away.

After that kind of analysis, then we select remedial action and we recommend a remedial action. The recommended remedial action here is air stripping the Ranney well to provide direct treatment and direct removal of the volatile organic contaminants that show up occasionally and continue to use the existing purge well that has been operating for several years.

The system components here, the major one is the air stripping, and this is broken down into several different other components. The air stripping is a device that is removing the volatile organic contaminants, but there are other aspects of implementing that are required. These are modifications to the system out at the Ranney well. We need a valve manifold box so that we can direct flow to each of the towers which I'll describe in a minute, the stripping columns with blowers are required.

Basically what we have come up with in a conceptual design is two air-stripping towers that would be

approximately 10 foot in diameter each by 16-feet high. And each would contain 8 feet of packing material and the counter-current flow of air and water through this tower would provide the stripping of the volatile organic chemicals. After that, after the stripping, we would have to go to a clear well so that the water that has been treated can be put back into the water distribution system and so we also need new pumps for that.

And also, as a back-up system a new chlorination system just in case the air stripper fouls, the plastic media used in the air stripper becomes fouled. This is really a back-up system. We don't know of any cases where this has happened, but it's probably good to have this kind of system as a backup in case the stripper gets fouled.

The other component is to keep the existing purge well operating. And basically what we recommend here is that a new well be installed at the same location at the same depth and the same pumping rate and also that there's flow measurement capability. That existing purge well appears to be effective in reducing the contaminants, but we want to make sure that it's operating correctly, that we can measure the flow at all times.

Just another word about the selection of these two items together. We really want to keep the existing

purge well going so that we have a good basis for design for the air stripper. We have some new data over the last few years on the levels of contamination reaching the Ranney well with this purge well in operation and if we stop the operation of the purge well, we felt that the design basis for the stripper, in other words how much the stripper would have to remove, becomes a little more questionable and so, it appears to be more reliable to go to the two-phase system.

Just quickly to describe what that air stripper does; the water containing low levels of contaminants is pumped into the top of this tower and this has plastic packing material in most of the tower. Air is blown into the tower so you have this counter-current flow and coming out of the top of the tower are the volatile organic compounds that are stripped out. And the treated water is then put back in the distribution system and in this diagram, it would be in this sump and then into the distribution system.

And just a little sketch on the internals of the tower, this shows what I just described, water coming in, going through this medium, the air coming in, that the counter-current flow, the air out with the contaminants that have been stripped and the treated water back to the

distribution system for use.

As far as reliability, this technology was piloted several years ago. The Village of Endicott and New York State Fish and Water Resources worked with a vendor to do some piloting with this and the contaminants involved very easily stripped. And so in terms of reliability, we felt that this was -- this approach, the air stripping, was very reliable.

Just to show an approximate layout where this would fit in down at the Ranney well, this is the existing Ranney well and right now, without any treatment, the water pumped out of the Ranney well goes right through the distribution system. What we are recommending for this air stripping is this valve manifold box where we can route the flow either to the stripper or if the stripper is not operating, through the distribution system, reroute it to these two strippers. And as I said, these are towers approximately 10 feet in diameter each by 16-feet high. These would be on a concrete pad and enclosed in a small building would be the blowers that would be used to supply the air for stripping. This would be to protect the air quality since this air is going for treatment of drinking water. Then the treated water would go to this clear well, you think of it as a reservoir and then be pumped back into

the distribution system and there would also be chlorination after treatment.

Presently, the chlorination of the drinking water is in the Ranney well. We would maintain that system as the backup if we ever needed to clean the strippers, if they ever became fouled. So that would be kept as a backup, but a new chlorination system would be used for routine chlorination.

So, this system can be fit in pretty well with the existing Ranney well. We had mentioned something about the record of decision. As far as the implementation of this recommended remedial action, the record of decision is expected to be signed in September, and then what happens the efforts remaining before implementation are detailed engineering design of this alternative. What we have done in this study is a conceptual design. This is an approximate layout, approximate sizes. What has to be done next is detail design and this would nail down a lot of the specifics of the design, and then construction after the detail design. So, this is the approximate schedule, and the spring of '89, when construction is ended, is when the stripper would come on line and start to treat.

MS. MILLER: It would operate continuously?

MR. O'HARA: Yes. This stripper will operate

continuously. Also as part of this study, there were two health risk assessment reports done; one was the existing assessment of health risk, and then another one was done after our recommended alternative was formulated to see what kind of change that would effect in the health risk. Basically, the roots of exposure in this situation would be ingestion through drinking, inhalation and dermal absorbtion through bathing. And based on the methodology for performing these health risk assessments, total health risk is 2 .5 times ten to the minus fifth. And 1 times 10 to the minus six is the health risk that's aimed for as an acceptable health risk. So, the health risk existing now is just slightly -- just slightly more than the desired health risk.

When we went through the same methodology with the stripper in operation, since the levels of toxic materials would now be below detection limits, the expected health risks would be -- is expected to be substantially less than ten to the minus six. So, again in terms of health risk, the air stripper and purge well is acceptable. And I think that was it.

MS. MILLER: That's, in brief, a description of the entire remedial investigation feasibility study. We would anticipate that you may have questions with regard to

the presentations tonight or something you may have read in the report. Bob Cozzy from our office in DEC will be handling most of the questions and at this time, we will open it up for questions from the audience. We would ask you one thing, and that is that we are having this whole meeting transcribed here, taken down, and so when you are recognized to ask a question, would you please identify yourself and speak at a volume that you can be heard. Anyone who would like to ask questions at this time?

MR. MATERESE: Rick Materese, trustee in Endicott. In the first presentation where you stated low levels of contamination are still detected at times at the Ranney well, now, is that greater than the four parts per billion that the state allows or is that less than but still is detected?

MR. KAMPFF: Generally it's less than the four parts per billion in the case of vinyl chloride. There is, in some instances, spikes of contamination detected in the Ranney well, but it doesn't appear -- it's not a consistent pattern. It shows up one week, but it is not a repeatable value, so there's not a consistent contamination occurring at the Ranney well.

MR. COZZY: You mentioned a level of four parts per billion. The federal government limit is two parts per

billion and the state is in the process of adopting the federal limits. For all intents and purposes, the state limit is now two parts per billion.

MR. MATERESE: In 1984 was it four?

MR. COZZY: This was recently adopted in June.

MS. MILLER: Let's address then the spikes of contamination and Dr. Gaffney, would you care to address that?

DR. GAFFNEY: Well, the number in 1982 was five. That's a guideline and that still, in a sense, exists on the books. Now, that's a guideline; in other words, something we operate to that. To say there's a health problem if we exceed it but it doesn't exist as a standard so tomorrow morning we are going to close down the place or go to courts. You basically deal with that by explaining to people that there is a risk and the exposure needs to be eliminated. However, from the beginning we have always discussed getting these numbers. It would be non-detectable, because vinyl chloride does happen to be the one carcinogen we are concerned about in water that we know, proven, causes human cancers as opposed to many of the other organic contaminants in water where we suspect they cause human cancer based on the fact that they do cause animal cancer but we don't have such direct human

exposure data.

MR. MATERESE: I understand that we would all like to get that level down to a non-detectable level. I guess my question deals with the fact that for the past five years, then, or six years, I should say go back to three years since we put in the purge well, have the levels been at still a strong risk to the people, the 47 percent of the village who gets that water?

DR. GAFFNEY: Well, as long as you're getting detectable amounts occasionally, then we say that's a health risk that can be eliminated.

MS. MILLER: But you're asking what are the peaks that have occurred and have those peaks -- perhaps it would be good at this time to explain what happens to the Ranney well water as far as its incorporation into the system and the testing of that water after it's incorporated.

Gene, would you be able to address that question?

MR. KUDGUS: Gene Kudgus, I'm public works superintendant for the Village of Endicott. As was mentioned, that well does supply about 47 percent of the total production of water that we turn out. About half of the amount of water that comes from the Ranney well does go

to local industry to be used as process water. The remaining amount is distributed among the various tanks, other distribution sites that we have so that when it does get to the consumer, which is probably in the vicinity of maybe 15 to 20 percent of the people in the entire system, the levels have been non-detectable, because there is a blending effect that occurs since the Ranney is not the sole source of water but other sources of water are used to provide that supply.

MS. MILLER: Does that help you?

MR. MATERESE: I guess that's the point I wanted to get to.

MR. KUDGUS: So, even though we have had occasional two parts per billion, three parts per billion and then zero at the Ranney, as far as the consumer is concerned, the consumer is getting none, non-detectable.

MR. MATERESE: I just wanted to make sure that was stated. I didn't think that was. If no one else has questions, I have a couple more.

MS. MILLER: Well, we will give you one more, then we will give somebody else a chance.

MR. MATERESE: My second question dealt with the air stripping and you said you want to have the two things in case there's a malfunction. If the first -- if

the air stripper malfunctions and then it goes into the chlorination system, you would never know that the air stripper malfunctioned until the chlorinating system also malfunctioned?

MR. O'HARA: No. The purpose of the two systems is to provide a good design basis for the air stripper so that we have a better design for the air stripper. We don't have erratic peaks without the purge well, so that's the reason to have the purge well. The air stripper is very simple in operation and as long as the blowers are operating, it is providing treatment and we will know when the blowers are not working. And the down time for that would be very, very minimal.

MS. MILLER: How would you know the blowers aren't working?

MR. O'HARA: Well, it would be routine inspection.

MS. MILLER: Gets quiet, you don't hear them any longer. You would be able to detect.

MR. KUDGUS: We would also have that system tied into alarms at our main water pump station in addition to having a 24-hour water operator for the plant. So when it was not working, we'd be aware of it immediately.

MS. MILLER: Does anyone else have a question?

MS. QUACKENBUSH: Deborah Quackenbush. I'm a business owner here in Endicott. I have a couple of questions. First, I'm curious about the pilot program that you had mentioned how it was involved in similar type of project or the design of this type, and I'm interested where that was, how it's working and those types of --

MR. COZZY: I think what Mike referred to is a pilot study that EPA had done and what they showed was that typical air stripper removal efficiencies were 99 percent. There are air strippers operating throughout the country, one of which is in Brewster, New York, and they were reported typical removals of 99 percent. That's the pilot study I believe you're referring to.

MS. MILLER: Gene, you had some more information?

MR. KUDGUS: We did a pilot study, Village of Endicott did a pilot steady with Elaine Corporation (phonetic) which is a vendor that produces studies of facilities of this nature, and we took it upon ourselves to call them in and pay for them to set up a portable treatment facility to evaluate the effectivness and the potential of that mode of treatment for our water supply. That was done several years ago. That report's available, too.

MS. MILLER: Maybe this would be a good time to have Bob just mention, we will get back on your second question, Debbie, though, what it would have to meet as far as air emission requirements.

MS. QUACKENBUSH: That was my next question, about the air quality in. You mentioned quality checking going in but you didn't mention it going out.

MS. MILLER: Let's address that right now. You see, great minds --

MR. COZZY: Air stripper will have to meet the New York State air guideline requirements. In addition, there's a national emission standard for vinyl chloride of ten parts per million. What we will actually see out of this air stripper is in the order of ten parts per billion which is less than one percent of what the standard is. This amounts to less than five pounds of vinyl chloride per year going to the atmosphere. The requirements set are New York State alone.

MS. MILLER: But there are state requirements that such a facility would have to meet and that would be monitored for meeting those standards.

MR. COZZY: Right. There's also the federal requirement for vinyl chloride which will be met.

MS. QUACKENBUSH: I do have a couple more.

MS. MILLER: Then we do have to give the other gentleman a turn, too. Anyone else? We will go back to you again.

MR. MATERESE: Going back to that same question. Rick Materese, trustee. Going back to that same idea, we will meet the standards, but will that affect, even though it's in the atmosphere, will that affect the ground directly around that pump station?

MR. COZZY: That was, as far as the contaminants, that was also addressed in the health risk assessment for the alternative and the bottom line is that it's -- the risk due to cancer is much less than one times ten to the minus six. In fact, it's less than one times ten to the minus seven due to the air, the contaminated air coming from the air stripper, so it would did he reduce the risk from drinking the water.

MR. MATERESE: But what would be --

MS. MILLER: Are you saying would it go in the air and contaminate the soil? That's what you're talking about?

MR. MATERESE: Yes.

MS. MILLER: The impact from the air emissions on the soil?

MR. COZZY: On the soil.

MS. MILLER: And if it's meeting the standards in the air emissions.

MR. COZZY: Not really. It's a gas, it won't disburse in the atmosphere. It won't settle to the ground.

MS. MILLER: It disburses then it meets the standards for that ambient air and, therefore, the standards, we are saying, wouldn't have an impact.

MR. COZZY: The standards are based such that it wouldn't have an impact at ground level so many feet from the stack itself.

MS. QUACKENBUSH: I will finish up with two questions. Apparently it appears that we will have a decision that this is basically what will have to be done out there. The construction costs for this fix, will there be some assistance for the Village of Endicott in this area? And then the other question I have is the schedule to monitor the water quality after the system is put in and what will --

MS. MILLER: Let's have Bob describe what the funding mechanism is for such a site and then Gene go over what he plans to do for the testing.

MR. COZZY: The way the funding would work is for the construction of the air stripper, the USEPA who's funding the study would pay for 90 percent of the

construction costs and the state would pick up the other ten percent. In addition to that, the first year's operation and maintenance costs would be picked up 90 percent by EPA, ten percent by the state. After the first year, the first year's considered start-up costs. After the first year, the end users pick up the operation and maintenance of the system.

MS. MILLER: But that end use does not include the original installation construction costs.

MR. COZZY: Construction costs are covered by EPA and the state and the 90/10 percent.

MS. MILLER: To follow then, then the long term is by the users. Gene, why don't you mention your existing monitoring program and then what you would plan.

MR. KUDGUS: Right now we are required to test monthly, but again, we have taken it upon ourselves to provide more data than is required, so we test now every two weeks. In the future, I think, Kent, the requirement will be monthly, as well.

KENT: Minimum of monthly.

MR. KUDGUS: And we will probably continue our two-week testing. I will also probably be proposing to our board that the water laboratory that we have now acquire the necessary equipment so that we can perform those tests

in-house at a considerable savings.

MS. MILLER: Any other questions?

MR. MATERESE: My last question, I think, you stated that once the water goes through the blower system, it will then go into another chlorination system and it's already been chlorinated in the Ranney well. Is there any danger of over chlorination to the water?

MR. O'HARA: No. The existing chlorination system will not be used. It will be there, it will be useable, but it will not be used. The only purpose in keeping that is in case the stripper media gets fouled, then that would be chlorinated itself, but the existing chlorination system will not be used. The water's only chlorinated once at the end.

MS. MILLER: Any further questions? No further questions from the -- how about some of our reporters here? Do you have any questions you want to ask? Any of the panel have anything further they'd like to say?

MR. SCHOFIELD: Dan Schofield. You've got $147,000 a year operation cost.

MS. MILLER: Yes.

MR. SCHOFIELD: Is that what the anticipated operation costs is going to be?

MR. COZZY: Yes. I believe that's on the

electrical usage for the air stripper, the pumps and the blowers.

MR. SCHOFIELD: Gene, maybe you can answer this, is that about right?

MR. KUDGUS: Yes. I talked with Bob about getting a breakdown of those costs because a portion of it, of course, is power, some is staffing, other related operation and maintenance, plus the water testing, and I think as we discussed, a good portion of that cost was the water testing, which prompted me to consider our acquisition of the equipment so that we could formally test this in-house. I hope to have some numbers for you and the board soon on that.

MS. MILLER: Any other questions? If not, we will adjourn the meeting. If you have any questions that you'd like to ask of the panelists informally, come on up and if something occurs to you this evening or later on and you want to write it down, I'll give you that address again. Bob Cozzy, New York State Department of Environmental Conservation, 50 Wolf Road, Albany, 12233.

Thank you for coming this evening.

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STATE OF NEW YORK :

COUNTY OF BROOME :

I, Brenda S. Friedel Doty, RPR, do certify that the foregoing is a true and accurate transcript of the proceedings in the matter of DEC Information Hearing, held in Endicott, New York, on August 8, 1987.

Brenda S. Friedel Doty

BRENDA S. FRIEDEL DOTY, RPR
Notary Public
CZERENDA'S COURT REPORTING SERVICE
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